

## Objectives

- Definition and Types of pain.
- Pathophysiology of Chronic Pain.
- Management of Cancer Pain.

-Pharmacotherapy.

-Interventional pain therapy.



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## Cancer Pain Management

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## Types of Pain

- Nociceptive/inflammatory pain: coming from peripheral tissue (skin, muscles, or bones).
- Visceral pain: Pain originating from viscera.
- Neuropathic pain: Pain due to injury or disturbance in the nervous system.
- Cancer pain: combined Pain originating from more than one of the above mentioned sites.

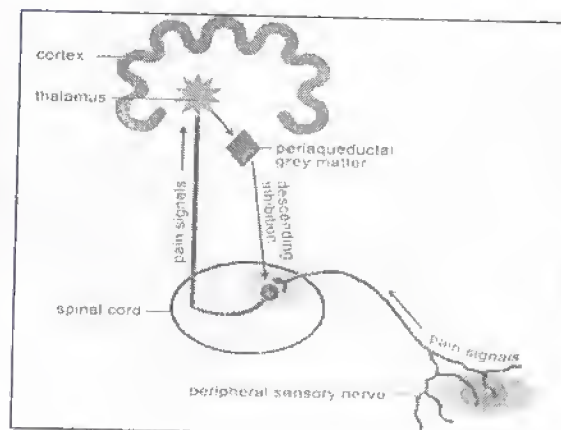
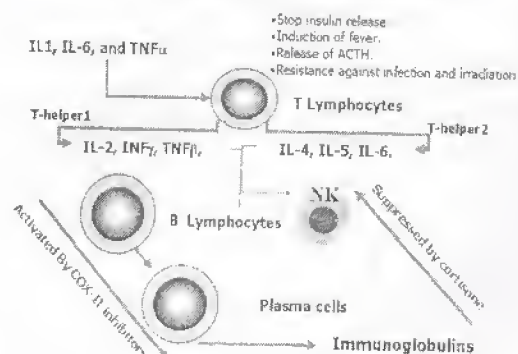
Identification of the type of pain is important as the mechanism of pain, and hence the treatment is different from each other.

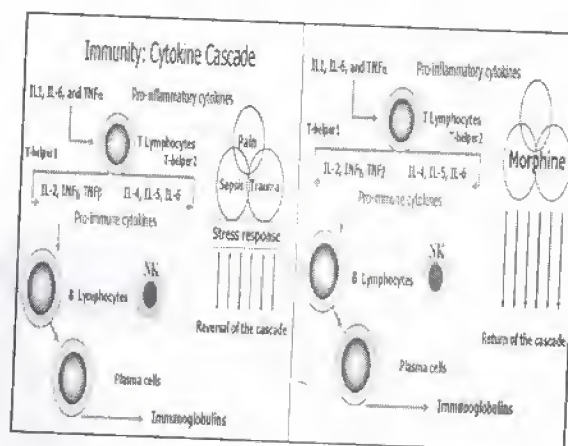
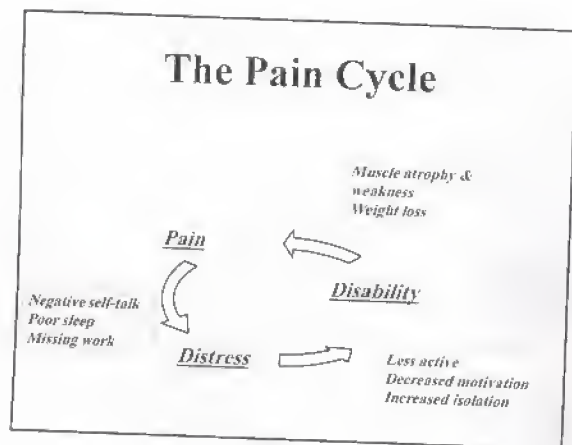
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## IASP Definition of Pain

*Pain is unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.*

## Immunity: Cytokine Cascade





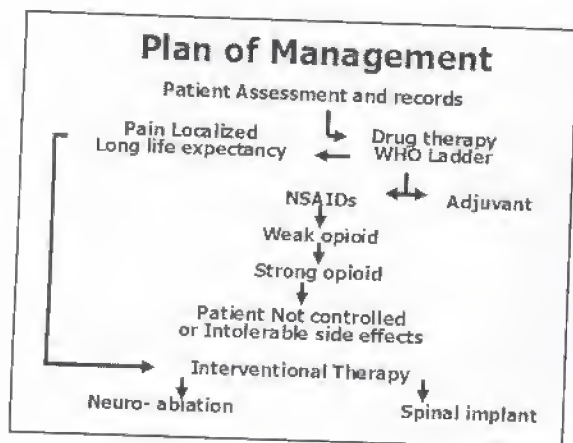
## Pain Management

### Management of Cancer Patient

#### Bio-psycho-social Model of Pain

Interdisciplinary team approach

- Physicians (...+...)
- Psychologist.
- Physiotherapist.
- Occupational Therapist.
- Nurse.
- Social worker.



### Pain Assessment

Site of pain .

Character of pain.

Started since.

Style of pain:

- constant
- paroxysmal: onset, duration, frequency.

Accompanied symptoms.

Severity: by VAS or Verbal Rating score

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## General roles for Drug management

- Optimization of drug therapy:
  - Right analgesic.
  - Right dose.
  - Right schedule.
  - Right co-analgesic.
- Individualization for each patient.
- Opioid Rotation if there is side effects.
- Anticipation of breakthrough pain.
- Prevention of side effect.

## WHO PRINCIPALS

- By Mouth.
- By Clock.
- By Ladder.
- Individualized.
- Use Adjuvants.

## Opioid Analgesics

- No Ceiling Effect.
- No serious morbidity on long term treatment in cancer pts.

### Morphine Sulphate

- MST 30 mg
- Active Metabolites

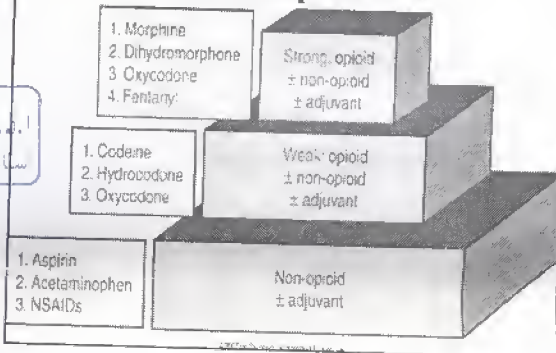
M6G analgesic (60%) SE N.V.

Resp Depression

M3G Anxiety and opioid antagonist effect.....Tolerance

- Contraindicated in RF

## WHO Step Ladder



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- The novel D-TRANS® drug-in-adhesive matrix combines improved adhesion, with reliable and sustained fentanyl delivery

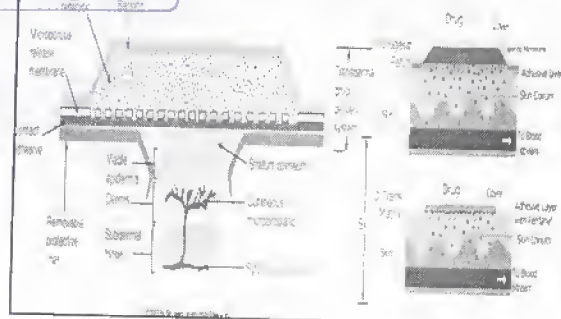
- D-TRANS® is smaller, thinner, more flexible and easier to apply, thereby improving wearability

- Used in RF.



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### What can further be done?

Initial treatment is medical

Interventional Therapy

Neuro-ablation techniques

- Rhizolysis
- Celiac Plexus Block
- Splanchnic nerve block
- Superior Hypogastric Plexus Block
- Ganglion Impar Block
- Stellate Ganglion Block
- Lumber Sympathetic Block

Neuraxial Therapy

Spinal implants

### Adjuvant Drugs

Antidepressants

Anticonvulsants

Muscle relaxants

Oral local Anesthetic

Corticosteroids

Calcitonin and Bisphosphonates

Anti-emetics and Laxatives

### Neuro-DESTRUCTIVE PROCEDURES.

Includes:

- Chemical Neurolysis.
- Radiofrequency ablation.
- Cryo- freezing.

Chemical Neurolysis

- Alcohol: absolute / 50%.
- Phenol: 5-6% in glycerin / 6-10% in saline.
- Chlorocresol: 2% in glycerin.

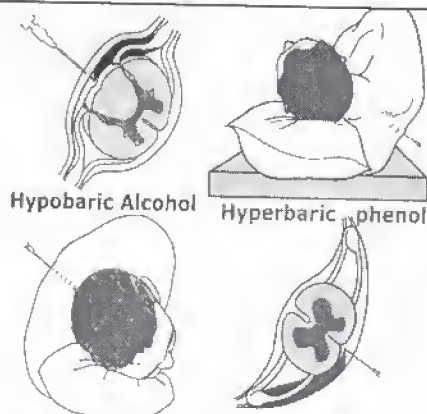
### Neuro-DESTRUCTIVE PROCEDURES

Indications

Neuroablative techniques can be used early in the natural history of cancer pain.

- In presence of focal somatic lesions (rib metastases)
- In certain visceral pain (e.g. pancreatic cancer)
- In certain neuropathic pain states (e.g. craniofacial neuralgia).

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### Rhizolysis

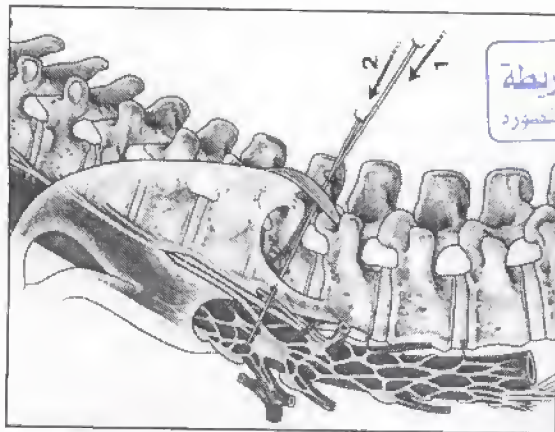
Subarachnoid Neurolytic Block

At the root There is separation of sensory and motor fibers.

Rhizolysis Used in treating cancer pain WITH:

- Life expectancy 6-12 months.
- Failure of analgesic management.
- Pain is localized to dermatome(s).
- Pain is somatic in origin.
- The patient and the family should understand precisely details, side effects, and complication of the block.





## Celiac Plexus Block

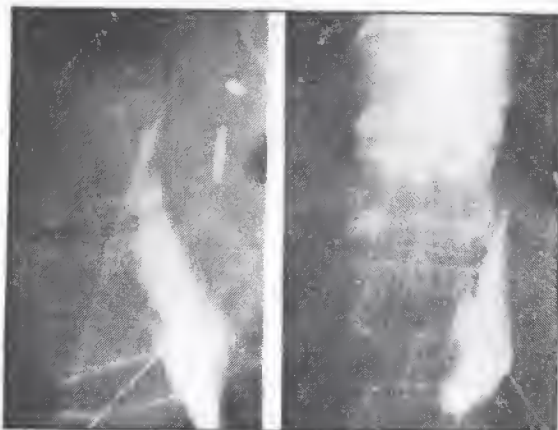
### Indication

- Pain relief in cancer pancreas or other upper gastrointestinal tract neoplasm using Alcohol.
- Therapeutic CPB with local anesthetic
- To relief epigastric pain following hepatic artery embolization for inoperable hepatic malignancies.
- To reduce gastrointestinal stasis in intensive care patients.
- In chronic pancreatitis ????

### Complication

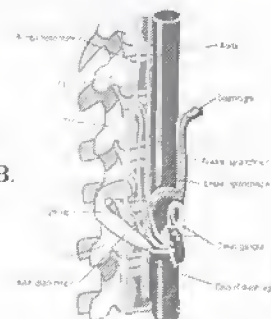
- ♦ Hypotension
- ♦ Pain.
- ♦ Abdominal spasm.
- ♦ Diarrhoea
- ♦ Wrong injection.
- ♦ Paraplegia (1/683)
- ♦ Sexual dysfunction.

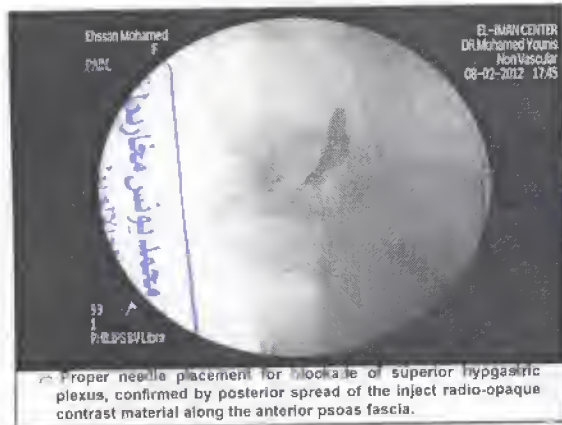
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الاله بطلب التمسيرة



## Splanchnic nerve block

Alternative technique,  
which is useful when  
malignancy has distorted  
the antero-crural anatomy  
and resulted in a failed CPB.





## Superior Hypogastric Plexus Block (presacral neurectomy)

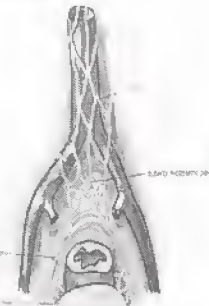
It transmits afferent sensory supply of descending and sigmoid colon, rectum, vaginal fundus, bladder, prostate, prostatic urethra, testes, seminal vesicles, uterus and ovaries.

### Indication:

Deep visceral pelvic pain.

1-Cancer

2-Non cancer: -Endometriosis  
- interstitial cystitis



## Ganglion Impar Block

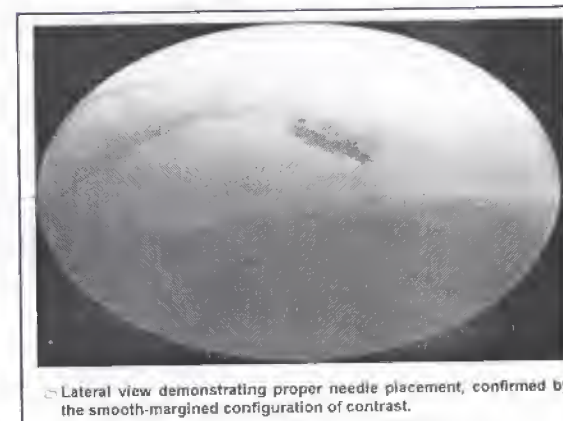
- Blockade of the ganglion impar used for managing intractable perineal pain of sympathetic origin.
- Sympathetically mediated pain in the perineal region is usually vague and poorly localized and is commonly accompanied by sensations of burning and urgency.
- The sympathetic component of these pain syndromes derives, at least in part, from this structure.



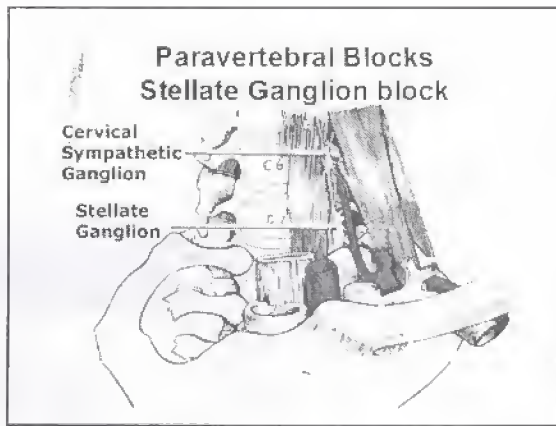
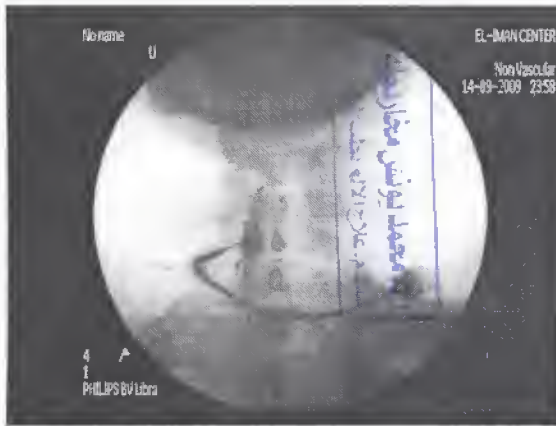
## Stellate Ganglion Block

### Indication

- Treatment of pain conditions such as CRPS, Reynald disease, acute herpes zoster, post-herpetic neuralgia and post-thoracotomy shoulder pain.
- Prognostic block prior to surgical left stellate ganglionectomy in the congenital long QT syndrome.
- Hyperhidrosis



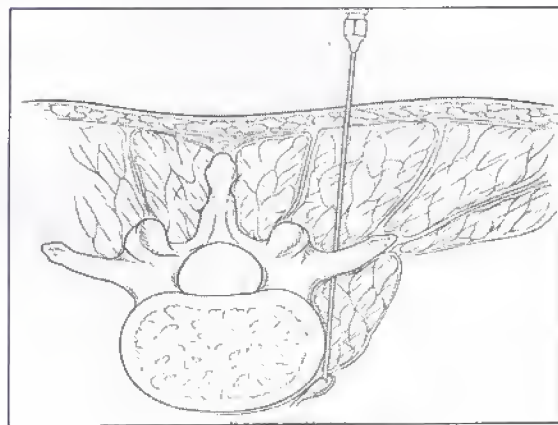
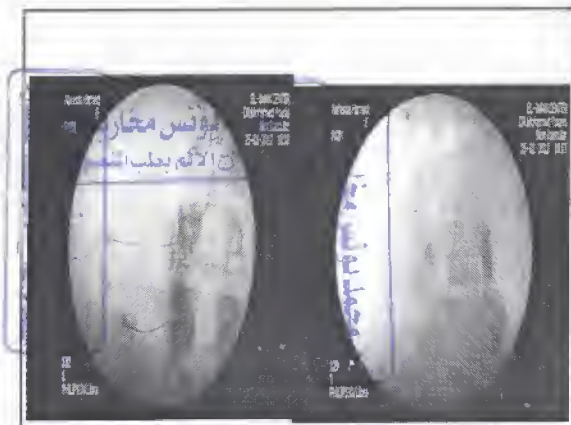
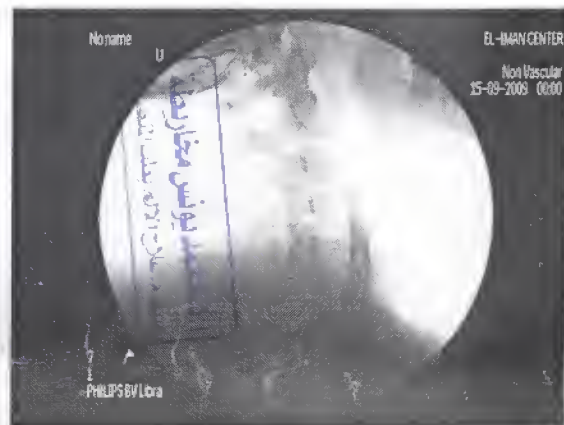
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## Lumbar Sympathetic Block

### Indications:

- CRPS
- Inoperable peripheral vascular disease with rest pain.
- Rectal tenesmus.
- Vascular ischaemia secondary to cannulation in the paediatric intensive care setting.
- Chronic venous leg ulcers, Chronic extremity pain in failed lumbar surgery or Buerger's disease does not respond well to LSB.





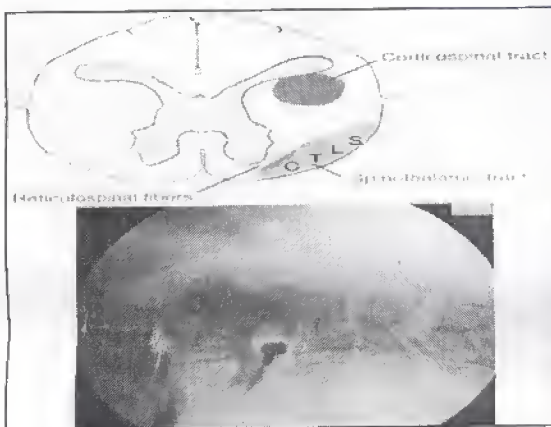
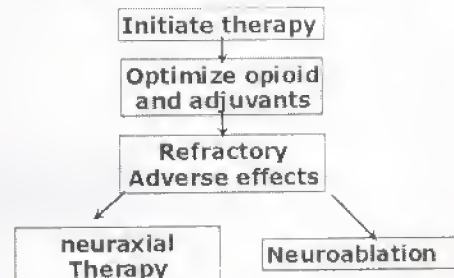
## Neuraxial Therapy

### Indications:

- In severe pain that cannot be controlled with systemic drugs because of dose-limiting toxicity
- When there is immediate need for a local anesthetic (some types of neuropathic pain); after failed neuroablation; or when patient preference indicates its use .

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## neuraxial Therapy



## Neuraxial Drug Delivery Systems

- Percutaneous Catheter (Type 1)
- Percutaneous Catheter with Subcutaneous tunneling (Type 2)
- Subcutaneous ports with completely internalized catheters (Type 3)
- Totally Implanted Catheter With Implanted Reservoir and Manual Pump (Type 4)
- Totally Implanted Catheter with Implanted Infusion Pump (Type 5)



## In Conclusion

- Cancer Pain represent a challenge.
- It need Interdisciplinary team approach.
- Medical Treatment is the corner stone in the management.
- Opioids are the most effective therapy.
- Adjuvant drugs are a must.
- Interventional Pain Therapy used when it is appropriate.

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